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## AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

## Listing of Claims:

Claim 1 (Currently amended).

A substation control system, responsive to a plurality of inputs from power system assemblies in the substation, comprising:

at least one remote input/output module having a fiber-optic transceiver capability;

wire connections, for providing status indication[[s]] signals from selected status points in the power system assemblies, to input contacts of the input/output module, wherein output signals from the remote fiber-optic module are in a form which can be applied to a fiber-optic line, and wherein said status indication signals are monitored by the input/output module for the state of the status indication signals;

at least one logic processor connected to a fiber-optic line from the input-output module and responsive to signals thereon for communication thereof to protective relay devices;

a fiber-optic communication line connecting the remote input/output module and the logic processor; and

at least one protective relay responsive to signals from the logic processor to perform protection functions and to produce corresponding control output signals, wherein the control output signals are applied back to the power system assemblies for control thereof.

Claim 2 (Original).

The system of claim 1, wherein the logic processor is located in a control house at the substation and wherein the fiber-optic line covers most of the distance between a power system assemblies equipment and the logic processor.

Claim 3 (Original).

The system of claim 1, wherein the system includes a plurality of remote input-output modules, a plurality of logic processors, and a plurality of protective relays, wherein each logic processor receives signals from a plurality of input-output modules, and wherein each logic processor provides information to a plurality of protective relays.

Claim 4 (Currently Amended).

The system of claim 1, wherein ~~the~~ at least one output signal[[s]] from the protective relay is ~~are~~ also provided back to the logic processor.

Claim 5 (Currently Amended).

The system of claim 1, wherein the system includes two ~~identical~~ similar substation control systems, both responsive to said status indications from the power system equipment assemblies, connected and operating redundantly in said substation control system.

Claim 6 (Original).

The system of claim 5, including means for comparing the operation of said two substation control systems and for providing an alarm if the two systems do not agree.

Claim 7 (Currently Amended).

The system of claim 1[[1]], wherein communication over the fiber-optic line between the remote I/O and the logic processor and between the logic processor and each device with which it communicates is in the form of digital bits, suitable for communication over a fiber-optic line.

Claim 8 (Original).

The system of claim 1, wherein a single status indication is provided to the logic processor from each status point in the power system assemblies and wherein the logic processor provides said status indications to multiple selected relay circuits for carrying out protection functions.

Claim 9 (New).

The system of claim 1, further comprising a human-machine interface coupled to the logic processor, the human-machine interface capable of controlling the relay, and where the logic processor communicates the status indication signals to the human-machine interface.

Claim 10 (New).

The system of claim 9, further comprising a communications processor coupled to a first device from the group consisting of the protective relay, the logic processor, and the human-machine interface, and where the communications processor is further coupled to a second device from the group consisting of the protective relay, the logic processor, and the human-machine interface, the first device not being the same as the second device, and the communications processor further coupling the first device to the second device.

Claim 11 (New).

The system of claim 1, further comprising a remote control interface coupled to the logic processor, the remote control interface capable of controlling the relay, and where the logic processor communicates the status indication signals to the remote control interface.

Claim 12 (New).

The system of claim 5, wherein the system includes means for comparing the monitored status indication signals of the two similar substation control systems, and the comparing means generates an alarm if the monitored status indication signals are not substantially similar.

Claim 13 (New).

The system of claim 1, further comprising a remote control interface coupled to the logic processor and a human-machine interface coupled to the logic processor, wherein the remote control interface and the human-machine interface consist of entirely different hardware, and the remote control interface is coupled to the logic processor independently from the human-machine interface.